WHAT IS CLAIMED IS:

1. A process for catalytic cracking of a hydrocarbon feedstock comprising contacting the feedstock with a catalyst composition comprising a mesoporous aluminophosphate material which comprises a solid aluminophosphate composition modified with at least one element selected from zirconium, cerium, lanthanum, manganese, cobalt, zinc, and vanadium, wherein the mesoporous aluminophosphate material has a specific surface of at least 100 m^2/g, an average pore diameter less than or equal to 100 Å, and a pore size distribution such that at least 50% of the pores have a pore diameter less than 100 Å.

2. The process of claim 1 wherein the mesoporous aluminophosphate material has an average pore diameter of 30 to 100 Å.

3. The process of claim 1 wherein the mesoporous aluminophosphate material has a specific surface area of at least 175 m^2/g.

4. The process of claim 1 wherein the mesoporous aluminophosphate material has a pore volume in the range from 0.10 cc/g to 0.75 cc/g.

5. The process of claim 1 wherein the catalyst composition further comprises a primary catalytically active cracking component.

6. The process of claim 5 wherein the weight ratio of the aluminophosphate material to the primary cracking catalyst component is about 0.01 to 0.5.

7. The process of claim 5 wherein the primary catalytically active cracking component comprises a large pore molecular sieve having a pore size greater than about 7 Angstrom.

8. The process of claim 7 wherein the primary catalytically active cracking component comprises a zeolite Y.

9. The process of claim 1 wherein the hydrocarbon feedstock contains sulfur and the process produces a gasoline boiling range product having a lower sulfer content than the feedstock.